

932,088.

Patented Aug. 24, 1909.
2 SHEETS—SHEET 1.

Fig. 1.

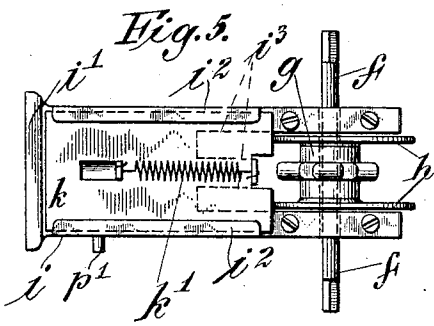
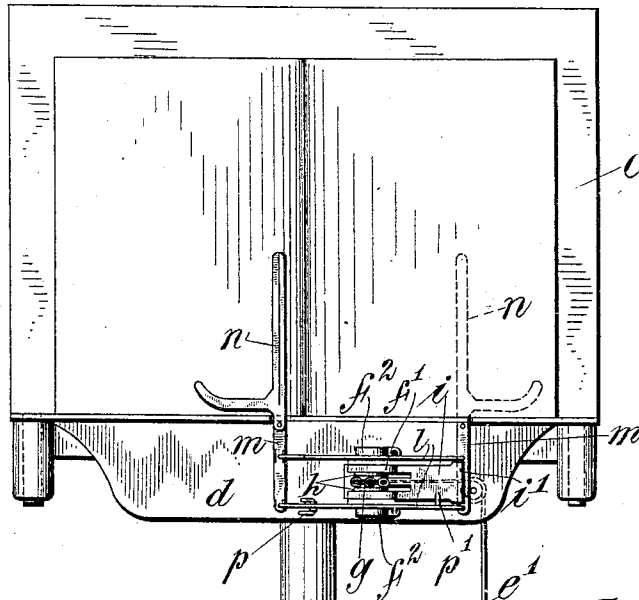
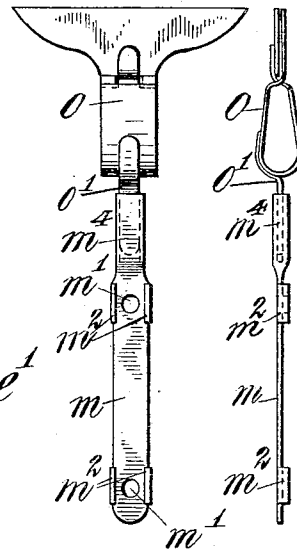


Fig. 6. Fig. 7.

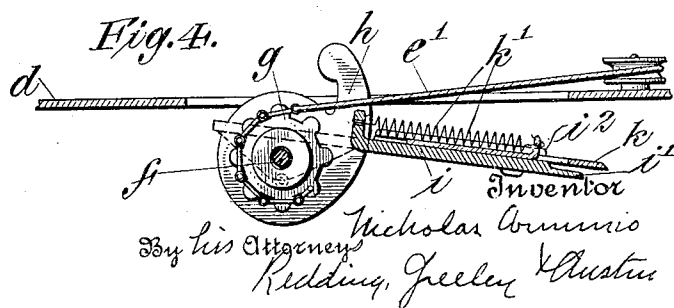
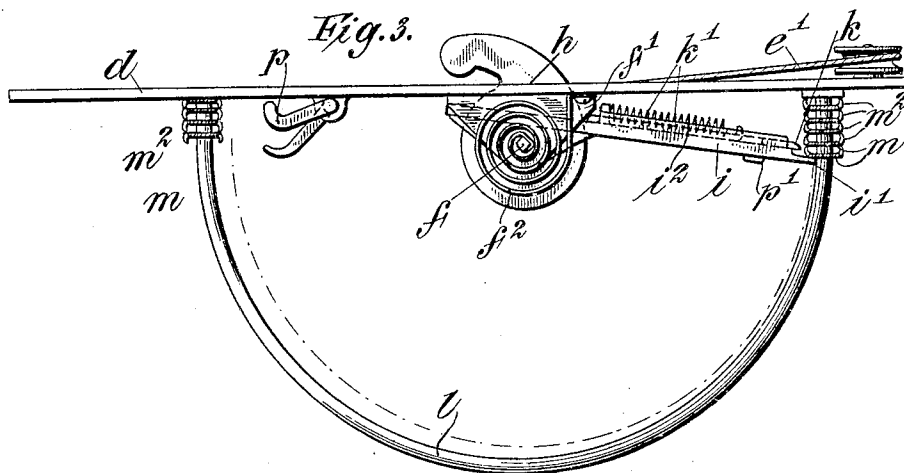
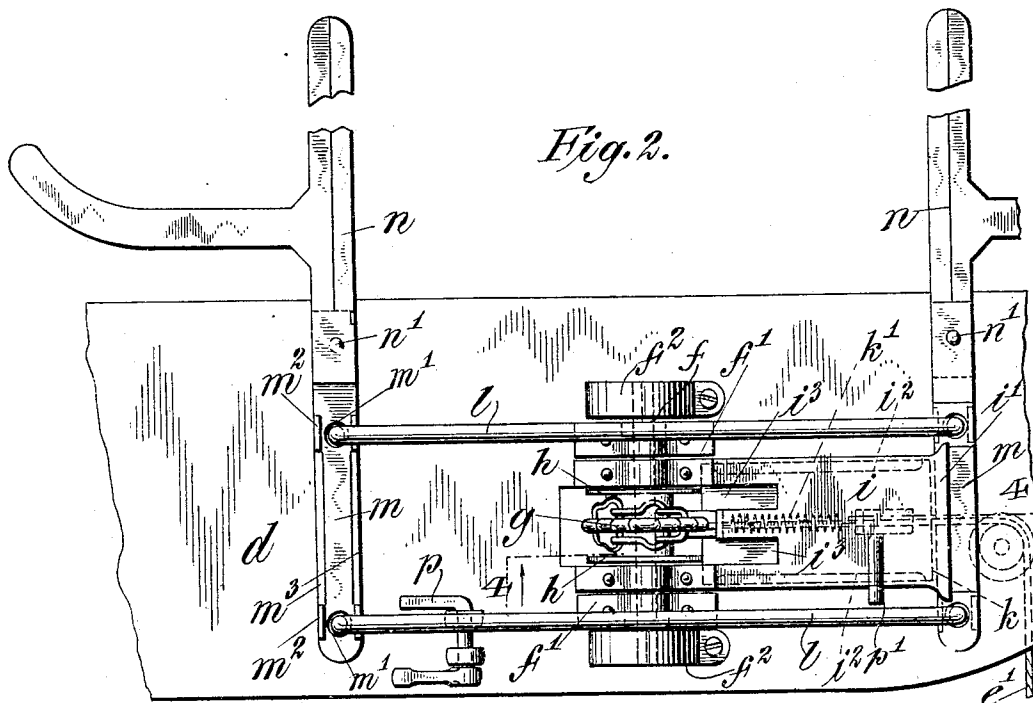


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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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MUSIC-LEAF TURNER.

932,088.

Specification of Letters Patent.

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Application filed December 19, 1908. Serial No. 468,313.

To all whom it may concern:

Be it known that I, NICHOLAS ARMINIO, a citizen of the United States, residing in the borough of Brooklyn, of the city of New York, in the State of New York, have invented certain new and useful Improvements in Music-Leaf Turners, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The object of this invention is to provide a device for turning the leaves of sheet music, etc., which shall be readily applicable to a piano, organ or music stand and shall operate with certainty and ease.

The invention will be more fully explained hereinafter with reference to the accompanying drawings in which it is illustrated and in which—

Figure 1 is a view in front elevation, partly broken out to save space, showing the improved music leaf turner applied to a music stand. Fig. 2 is a view in front elevation of the music leaf turner on a larger scale than Fig. 1 and also partly broken out. Fig. 3 is a top view of the parts shown in Fig. 2. Fig. 4 is a detail view in section on the plane indicated by the line 4—4 of Fig. 2 with the leaf holders omitted. Fig. 5 is a partial view in front elevation of some of the parts shown in Fig. 2 but in a different position. Figs. 6 and 7 are views in front and edge elevation respectively of a different form of leaf holder.

For convenience in illustration of the invention it is shown in Fig. 1 of the drawings as applied to an ordinary music stand having a base *a* and supporting pillar *b* upon the top of which is secured a music rack *c*. To the latter is secured a plate *d* upon which are mounted the working parts of the leaf turner, the actuating device being shown as a pedal *e* mounted upon the base *a* and connected by a cord or chain or other suitable connection *e'* with the working parts of the music leaf turner. It will be obvious, however, that the plate *d*, with the parts carried thereby, might be secured to the music rack or board of a piano or organ, or a music stand of other character than that shown, and that any other convenient form of actuating device might be employed and suitably connected to the working parts.

In the music leaf turner as shown in the drawings a shaft *f* is mounted in bearings 55 *f'* secured to the plate *d* and has secured thereto one or more springs *f*² by which it is rotated toward the right or contrary to the direction of movement of the hands of a watch (see Fig. 3). Loosely mounted on 60 the shaft *f* is a wheel or drum *g* to which is connected the chain or cord *e'* by which the shaft may be rotated toward the left or in the direction of the movement of the hands of a watch and in opposition to the spring 65 or springs *f*², as hereinafter explained. The wheel or drum *g* also has secured thereto one or more cam pieces *h*, for a purpose presently to be explained. Secured to the shaft *f* is a broad flat arm *i* having at its 70 extremity a lip *i'* which overlies the leaf holders hereinafter referred to and furnishes a bearing surface against which each leaf holder may be held firmly by a finger *k* adapted to slide longitudinally upon the arm 75 *i* in guides *i*² formed therefor. The finger *k* is normally withdrawn by a spring *k'* and is projected by the rotation of the cams *h* with respect to the shaft *f*, such cams bearing against the rear or inner end of the finger *k* 80 and working in slots *i*³ formed therefor in the arm *i*. The lip *i'* of the arm *i*, as will be observed, is somewhat offset from the finger *k* so that there is left between the lip and the finger a space sufficient to receive the 85 shank of the leaf holder as hereinafter explained. Also secured to the plate *d* are guides *l* for the leaf holders, such guides being preferably formed by wires which are bent in semi-circular or substantially semi- 90 circular form, but are slightly eccentric with respect to the shaft *f*, as clearly indicated in Fig. 3. The leaf holders, which may be of any suitable character, are mounted on the guides *l*. As shown in the drawings each 95 leaf holder comprises a thin flat plate *m* of metal having holes *m'* for the guides *l* and having lugs *m*² by which the plates *m* are held slightly apart, as shown in Figs. 2 and 3. The edges of the plates *m* are also 100 slightly beveled, as shown at *m*³ in Fig. 2, to facilitate the engagement of the finger *k* therewith. The shank of each holder carries a part to engage the corresponding leaf.

As shown in Figs. 1 and 2 the shank 105 is pivoted thereon, as at *n'*, a finger *n* which is

suitably formed to underlie the leaf to be turned and to support it during the turning movement, the finger *n* being pivoted so as to permit it to be turned down out of the way if desired. As shown in Figs. 6 and 7 each shank *m* is provided with a socket *m*⁴ to receive the tongue *o*' of a spring clip *o* which may be made to grasp the lower edge of the leaf or sheet to be turned.

10 In the operation of the device as shown in the drawings pressure is applied to the pedal *e* and the tension thus created on the connection *e*' is transmitted first to the wheel or drum *g*, which is thereby turned upon the shaft *f*, the arm *i* being then in its right hand position as shown in Figs. 1-4. The partial rotation of the wheel or drum *g* thus effected causes the cam piece *h* to act against the rear or inner end of the finger *k* and to project the same to the right, as indicated in Fig. 4. As the lip *i*' of the arm *i* then lies upon the shank of the topmost leaf holder and is slightly offset from the extremity of the finger *k*, and as the shank of each leaf holder is slightly separated from the next, as shown in Fig. 3, the extremity of the finger *k* therefore passes under or behind the shank of the topmost leaf holder, causing such shank to be held firmly and with a broad bearing between the lip and the extremity of the finger. The continued movement of the connection *e*' causes the cams to bear against the ends of the slots *i*³, which thus, with the cams, form stops to limit the movement of the wheel or drum with respect to the shaft, and thereafter the shaft is rotated. The rotation of the shaft causes the arm *i* to swing about the axis of the shaft from the position shown in Fig. 3 to the position shown in Fig. 5 and this movement of the shaft carries the leaf holder over from the right hand position to the left hand position. By reason of the eccentricity of the guides *l* the leaf holder is carried clear of the lip *i*' of the arm *i* as it approaches the limit of its movement toward the left so that the arm is free to be returned to the right by the action of the springs *f*² of the shaft *f* as soon as the tension of the connection *e*' is relieved, the finger *k* being at the same time withdrawn by the spring *k*' so that it will clear the topmost leaf holder at the right when the arm reaches its right hand position. Successive operations of the leaf turner will, therefore, move successive leaf holders from the right hand position to the left hand position, causing successive leaves engaged by such leaf holders to be turned from the right to the left. To return the leaf holders, one or more, from the left hand position to the right hand position, the arm *i* is held in the left hand position with the finger *k* withdrawn and the leaf holders are then moved

from left to right by hand. For convenience in holding the arm *i* in the left hand position a latch *p* is mounted on the plate *d* and is adapted to engage a lug *p*' on the arm *i*.

It will be obvious that various changes might be made in the details of construction, and arrangement of the leaf turner and the invention, therefore, is not to be limited to the precise construction shown and described herein.

I claim as my invention:

1. A music leaf turner, comprising a leaf holder, a substantially semi-circular guide therefor, an arm mounted to swing upon an axis eccentric with respect to said guide and having a fixed lip to bear upon the holder, a finger mounted to slide upon said arm and to engage the holder between itself and said lip, and means to project and withdraw said finger and to swing said arm upon its axis.

2. A music leaf turner, comprising a leaf holder, a substantially semi-circular guide therefor, an arm mounted to swing upon an axis within said guide, a wheel or drum mounted loosely upon the axis of the arm, a cam piece carried by the wheel or drum, a finger mounted to slide longitudinally upon the arm and adapted to be projected by the relative movement of the wheel or drum, a stop to limit the relative movement of the wheel or drum and the arm, and means to rotate the wheel or drum.

3. A music leaf turner, comprising a leaf holder, a substantially semi-circular guide therefor, an arm mounted to swing upon an axis within said guide, a wheel or drum mounted loosely upon the axis of the arm, a cam piece carried by the wheel or drum, a finger mounted to slide longitudinally upon the arm and adapted to be projected by the relative movement of the wheel or drum, a stop to limit the relative movement of the wheel or drum and the arm, a spring to retract the finger and means to rotate the wheel or drum.

4. A music leaf turner, comprising a shaft, a spring to rotate the shaft in one direction, an arm carried by the shaft, a finger mounted to slide longitudinally on the arm, a wheel or drum mounted loosely on the shaft, a cam piece carried by the wheel or drum and adapted to bear against the finger to project the same, a stop to limit the relative movement of the wheel or drum on the shaft, means to rotate the wheel or drum in opposition to the spring, a leaf holder and a substantially semi-circular guide therefor.

5. A music leaf turner, comprising a shaft, a spring to rotate the shaft in one direction, an arm carried by the shaft, a finger mounted to slide longitudinally on the arm, a wheel or drum mounted loosely on the shaft, a cam piece carried by the wheel or drum

and adapted to bear against the finger to
project the same, a stop to limit the relative
movement of the wheel or drum on the shaft,
a spring to retract the finger, means to ro-
5 tate the wheel or drum in opposition to the
spring, a leaf holder and a substantially
semi-circular guide therefor.

This specification signed and witnessed
this 11th day of December, A. D., 1908.

NICHOLAS ARMINIO.

Signed in the presence of—

W. B. GREELEY,

AMBROSE L. O'SHEA.